

Appl. No. 10/732,840
Amdt. Dated May 18, 2005
Reply to Final Office Action of February 18, 2005

REMARKS/ARGUMENTS

This amendment is responsive to the Office Action mailed on February 18, 2005. In the Office action, claim 11 was rejected under 35 U.S.C. §102 (b) as being anticipated by Schild (U.S. Patent No. 5,828,727, hereinafter "Schild"). Claims 1, 3, 5 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild in view of Chidester et al. (U.S. Patent No. 6, 438, 207, hereinafter "Chidester"). Claims 2 and 6 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester in view of Danos (U.S. Patent No. 5,029,195). Claim 12 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild in view of Danos. Claim 8 is rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester. Claim 9 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester in view of Danos. Claims 4, 7, and 10 were objected to but were deemed allowable if rewritten in independent form. Claims 1, 2, 4 -9, 11 and 12 were objected to because of certain informalities. In this amendment, claims 1, 2, 4, 5, 6, 8, 9, 11, and 12 were amended to overcome the informalities as pointed out by the Examiner. No new matter has been added.

Claims 1-12 remain pending in this application. Reconsideration in light of the above amendments and the following remarks is respectfully requested.

Claims define allowable subject matter over the applied art

Claim 11 was rejected under 35 U.S.C. §102 (b) as being anticipated by Schild. Applicant has carefully reviewed the applied reference, Applicant respectfully traverses the rejection of amended independent claim 11 under 35 U.S.C. §102 (b) as being anticipated by Schild. To anticipate a claim under 102, each and every element of the claim must be taught by the reference.

Applicant respectfully submits that Schild does not teach, disclose or suggest at least the claim recitations of "means for accelerating electrons in said electron beam away from said generating means", as recited in the amended independent claim 11.

Applicant respectfully submits that the methods and systems described in the Applicant's application are directed towards providing a more focused electron beam path in an x-ray source, for improved characteristics of the resulting x-ray beam. The "accelerating electrode 102" in Applicant's application is used as an "accelerating means" in certain embodiments, for accelerating the electrons and for focusing the electron beam to get an improved focal point. There are several other advantages and features associated with the accelerating electrode of the Applicant's invention (page 5 and page 6 of the Applicant's application). On the other hand, Schild is directed towards reducing the impact of the back-scattered electrons on the x-ray window. Schild includes a negatively biased x-ray window, conductively connected to a positive potential via a resistor (column 2, lines 11-

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25). Schild is completely devoid of any disclosure, teaching or suggestion that can lead to the "accelerating or beam focusing" aspect as described in Applicant's application. The Office Action refers to "electrode 4" in Schild as "means for accelerating electrons". However, nowhere does Schild disclose that the electrode 4 (column 3, lines 27-30) is used as an accelerating electrode. Schild does mention a focusing electrode 19 (column 3, lines 57-58). However, Schild is again completely moot on the aspect of "accelerating electrons in said electron beam away from said generating means". Thus, Schild is completely devoid of any teaching, disclosure or suggestion that can lead to the claim recitations of "means for accelerating electrons in said electron beam away from said generating means" as mentioned in the amended independent claim 11.

Thus the Applicant respectfully submits that the amended independent claim 11 is not anticipated by Schild under 35 U.S.C. §102 and therefore, is allowable.

In view of the foregoing remarks, Applicant respectfully requests withdrawal of the rejections under 35 U.S.C. §102 (b).

Claims 1, 3, 5 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild in view of Chidester. Applicant respectfully traverses the rejection of independent claims 1 and 5, as amended, under 35 U.S.C. § 103(a) as being unpatentable over Schild in view of Chidester.

To establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art.

Applicant respectfully submits, that as explained above, in relation with the 102 argument, Schild similarly does not teach, suggest or disclose the claim recitations of "directing the electron beam from the cathode through a selectable shaped aperture in an accelerating electrode" of the amended claim 1 and recitations of "an accelerating electrode comprising a selectable shaped aperture through which the electron beam from said cathode passes" of the amended claim 5. There is no disclosure, teaching or suggestion in Schild about an accelerating electrode or about a selectable shaped aperture.

Chidester merely discloses a system for generating multiple focal spots (column 4, lines 65-67; column 5, lines 19-23). Irrespective of what Chidester discloses or does not disclose, it is a well established law that obviousness cannot be established by combining pieces of prior art absent some teaching, suggestion, or incentive supporting the combination. Applicant respectfully submits that Schild and Chidester are directed to distinct objectives, Schild focuses on back scattering issue and whereas Chidester focuses on multiple focal spots. Thus, there is no motivation in Schild that may lead to combining of Schild with Chidester.

Accordingly, Applicant respectfully submits that independent claims 1 and 5, as amended, define

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allowable subject matter over the applied art. Claim 3 depends directly from the amended claim 1. Applicant respectfully submits that amended claim 1 is patentably distinct from the applied references for the reasons discussed above and that claim 3 is similarly allowable over the applied references.

Claims 2 and 6 were rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester in view of Danos. Claim 2 depends from independent claim 1 and claim 6 depends from independent claim 5.

Applicant respectfully submits, that as explained above, Schild does not teach, suggest or disclose the claim recitations of "directing the electron beam from the cathode through a selectable shaped aperture in an accelerating electrode" of the amended claim 1 and recitations of "an accelerating electrode comprising a selectable shaped aperture through which the electron beam from said cathode passes" of the amended claim 5. The Applicant reiterates that there is no motivation in Schild for a combination with Chidester.

Danos does not overcome the deficiencies of Schild. Danos merely discloses systems and methods for optimizing x-ray emission with a sweeping, a non-sweeping pencil beam, flat or broad beam (column 1, lines 59-62). Danos is also completely devoid of any disclosure, teaching or suggestion for accelerating electrode having a selectable shaped aperture as recited in independent claims 1 and 5, as amended. Thus the above mentioned claim recitations of independent claims 1 and 5 are still not described in Danos. Therefore, the combination of Danos with Schild will not yield the Applicant's invention as recited in independent claims 1 and 5, as amended. Thus, the Applicant respectfully submits that independent claims 1 and 5 define allowable subject matter over the applied art. Claim 2, as amended depends directly from the amended claim 1, and the amended claim 6 depends directly from amended claim 5, and are similarly allowable.

Claim 12 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild in view of Danos. Claim 12 depends directly from independent claim 11.

Applicant respectfully submits, that as explained above, in relation with the 102 argument, Schild does not teach, suggest or disclose the claim recitations of independent claim 11, as amended. Danos is similarly devoid of any disclosure, teaching or suggestion about "means for accelerating electrons", hence no combination of Schild with Danos will yield the Applicant's invention as recited in the amended independent claim 11. Amended claim 12 depends directly from the amended claim 11, and therefore is similarly allowable.

Claim 8 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester. As explained above there is no motivation in Schild for a combination with Chidester. Obviousness cannot be established by combining pieces of prior art absent some teaching, suggestion, or incentive supporting the combination. Thus, the Applicant respectfully submits that independent claim 8, as amended defines allowable subject matter over the applied art.

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Claim 9 was rejected under 35 U.S.C. §103 (a) as being unpatentable over Schild and Chidester in view of Danos. Claim 9 depends directly from the independent claim 8.

Applicant respectfully submits that as explained above, the amended claim 8 is allowable over Schild and Chidester. Also, Danos does not overcome the deficiency of Schild. Specifically there is no disclosure, teaching or suggestion in Danos about the claim recitation of "accelerating electrode comprising a selectable shaped aperture" of the amended independent claim 8. Thus, the Applicant respectfully submits that the amended independent claim 8 defines allowable subject matter over the applied art. Amended claim 9 depends directly from the amended claim 8 and is similarly allowable.

Accordingly, Applicant respectfully submits that the Office Action did not make a prima facie case of obviousness for the independent claims 1, 5, 8 and 11, as amended. Amended claim 2, and claim 3 depend directly or indirectly from the amended claim 1 and amended claim 6, depends directly from amended claim 5, amended claim 9 depends directly from amended claim 8, and amended claim 12 depends directly from amended claim 11. Applicant respectfully submits that amended independent claims 1, 5, 8 and 11 are patentably distinct from the applied references for the reasons discussed above and that amended claim 2, claim 3, amended claims 6, 9, and 12 are similarly allowable over the applied references.

Summary

In view of the foregoing, Applicant respectfully submits that the application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are respectfully requested.

Should the Examiner believe that anything further is needed to place the application in even better condition for allowance, the Examiner is requested to contact Applicant's undersigned representative at the telephone number below.

Respectfully submitted,

By 

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